

Abstract of the Disclosure

A fuel injector comprises a body having a longitudinal axis, an length-changing actuator that has first and second ends, a closure member coupled to the first end of the length-changing actuator, and a compensator assembly coupled the second end of the actuator. The length-changing actuator includes first and second ends. The closure member is movable between a first configuration permitting fuel injection and a second configuration preventing fuel injection. And the compensator assembly axially positions the actuator with respect to the body in response to temperature variation. The compensator assembly utilizes a configuration of at least one spring disposed between two pistons so as to reduce the use of elastomer seals to thereby reduce a slip stick effect. Also, a method of compensating for thermal expansion or contraction of the fuel injector comprises providing fuel from a fuel supply to the fuel injector; and adjusting the actuator with respect to the body in response to temperature and other dimensional variations.